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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,114	08/25/2003	Srikanth Rengarajan	42P17135	3148

8791 7590 03/15/2006

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EXAMINER

HUYNH, KIM T

ART UNIT PAPER NUMBER

2112

DATE MAILED: 03/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/648,114	Applicant(s) RENGARAJAN, SRIKANTH	
	Examiner Kim T. Huynh	Art Unit 2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 January 2006.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-11 and 13-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 3-9 is/are allowed.
- 6) ☒ Claim(s) 10-11, 13-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Receipt Acknowledgement*

1. Receipt is acknowledged of the request filed on 4<sup>th</sup> of January 2006 for a request for continued examination (RCE) under 37 CFR 1.114 based on the application No. 10/648,114 which the request is acceptable and an RCE has been established. Currently, claims 1, 3-11, 13-15 are pending in this application.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 10, 13, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hewitt et al. (US Patent 5,956,493) in view of Jin (US Patent 5,970,234).  
As per claim 10, Hewitt discloses a method, comprising: determining which pending bus requests from clients have a highest programmable hierarchical priority and a greatest time interval since requesting access to a bus, based on an algorithm; and granting access to the bus based on said determining. (col.2, lines 19-47)

Hewitt discloses all the limitations as above except granting access to the bus based on existence of a sleep entry condition. However, Jin discloses machine 230 monitors the condition of PCI bus, and produces and outputs the

GNTNL signal to the bus master having the highest priority according to the priority value CNTn when a plurality of bus masters request the authority. If any bus master dose not request to use the PCI bus (that is, Idle condition), the hand shake state machine 230 grants the authority to the bus master which uses the PCI bus recently. (col.7, lines 4-11)

It would have been obvious to one having ordinary skills in the art at the time the invention was made to incorporate Jin's teaching into Hewitt's system so as to provide an improvement of PCI bus control system having a PCI bus arbiter (col.1, lines 45-50)

As per claim 13, Hewitt discloses wherein said determining further comprises determining priority based on order of physical connection among the clients, responsive to multiple clients having the highest programmable hierarchical priority and the greatest time interval since requesting access to the bus based on the algorithm. (col.2, lines 19-47)

As per claim 15, Hewitt discloses wherein the arbiter is to grant bus access to a requesting one of the target clients based on round-robin arbitration. (col.1, lines 37-46)

4. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hewitt et al. (US Patent 5,956,493) in view of Jin (US Patent 5,970,234) and further in view of Chen et al. (US Patent 5,546,548)

Hewitt discloses all the limitations as above except wherein the arbiter is to give priority to retried bus requests before the pending bus requests based on the hierarchical ranking and the time interval. However, Chen discloses the arbiter configured to minimize retry. The priority is modified to its predetermined priority such that subsequent retries will be attempted and subsequently granted. A retry be timed and permitting a subsequent retry to be initiated. (col.4, lines 18-43)

It would have been obvious to one having ordinary skills in the art at the time the invention was made to incorporate Chen's teaching into Hewitt's system so as to permit flexible prioritization of access to a bus. (col.9-11)

5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hewitt et al. (US Patent 5,956,493) in view of Jin (US Patent 5,970,234) and further in view of Modelski (Pub No 20020120828)

As per claim 14, Hewitt discloses all the limitations as above except wherein: the first type of clients are master clients; a second type of clients are target clients; and the arbiter is to arbitrate bus requests from the target clients separately from arbitrating the bus requests from the master clients. Hewitt discloses all the limitations as above except arbitrate pending bus requests from target clients

separately from arbitrating bus requests from master clients. However, Modelski discloses split transaction depend on master request bus(MRB) and slave result bus(SRB). Each operation starts with a request and arbiter. The MRB and SRB are separated from each other and are pipelined. Masters assert their ready to the SRB arbiter and slaves assert their ready to the MRB arbiter. (paragraph [0148 &0158])

It would have been obvious to one having ordinary skills in the art at the time the invention was made to incorporate Modelski's teaching into Hewitt's system so as to provide a method of directly manipulating a bit field without the use of separate insert or extract instructions. (paragraph [0007])

#### ***Allowable Subject Matter***

8. Claims 1-9 are allowable.

#### ***Response to Amendment***

9. Applicant's amendment filed on 1/4/06 have been fully considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

10. *Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kim Huynh whose telephone number is (571)272-3635 or via e-mail addressed to [kim.huynh3@uspto.gov]. The examiner can normally be reached on M-F 9.00AM- 6:00PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached at (571)272-3676 or via e-mail addressed to [rehana.perveen@uspto.gov].*

*The fax phone numbers for the organization where this application or proceeding is assigned are (571)273-8300 for regular communications and After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-2100.*

Kim Huynh

March 7, 2006



REHANA PERVEEN  
SUPERVISORY PATENT EXAMINER  
3/8/06